

G. W. GRADER.
TREE PROTECTOR.

No. 179,297.

Patented June 27, 1876.

Fig. 1.

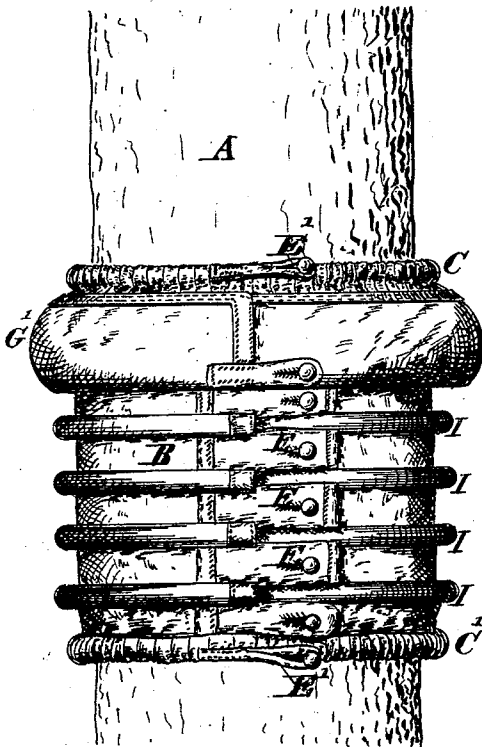


Fig. 3.

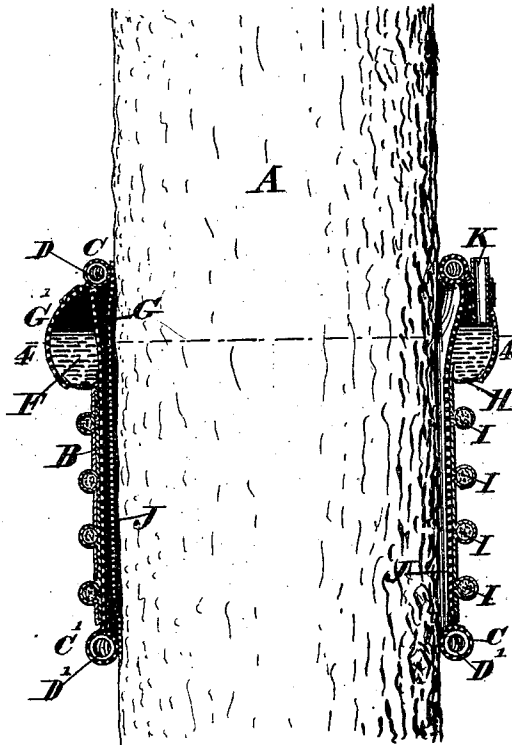


Fig. 2.

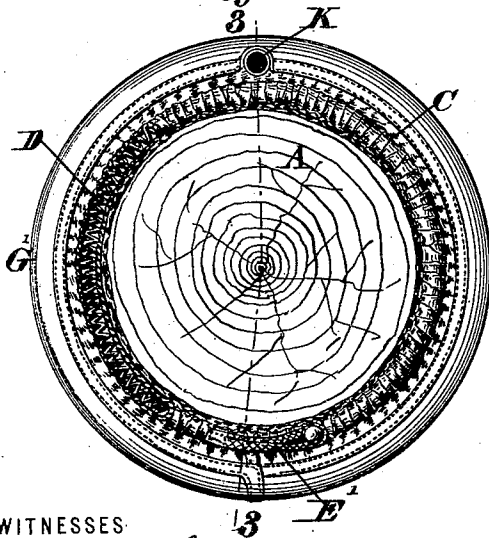
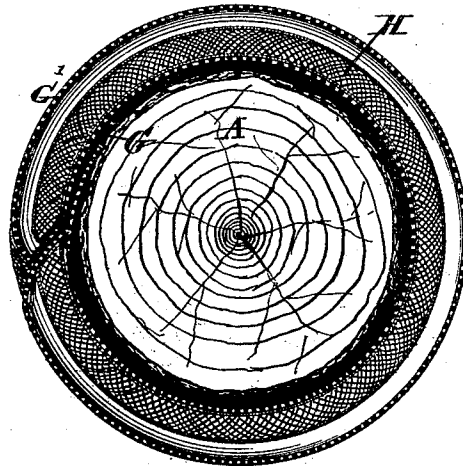


Fig. 4.



WITNESSES

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UNITED STATES PATENT OFFICE.

GEORGE W. GRADER, OF MARBLEHEAD, MASSACHUSETTS.

IMPROVEMENT IN TREE-PROTECTORS.

Specification forming part of Letters Patent No. **179,297**, dated June 27, 1876; application filed June 7, 1876.

To all whom it may concern:

Be it known that I, GEORGE W. GRADER, of Marblehead, in the county of Essex and State of Massachusetts, have invented a certain new and useful Improvement in Tree-Protectors, of which the following is a specification:

The subject of my invention is a band of cloth or other fabric made somewhat larger than the tree to which it is to be applied, so as to allow for growth, and closed around the tree at its upper and lower edges by spiral springs applied within pockets, as hereinafter described.

At the upper part of the band is an oil-receptacle formed with impervious walls, and having a bottom which permits of the gradual flow of oil on the outside of the band. An impervious lining is interposed between the cloth band and the tree.

The cloth band is also constructed with a number of horizontal ribs, formed of wicking or other capillary material adapted to retain any liquid which will prevent the passage of insects.

In the accompanying drawing, Figure 1 is an elevation of the protector applied to the trunk of a tree. Fig. 2 is a plan or top view of the same, showing the tree in section. Fig. 3 is a vertical section on the line 3 3, Fig. 2. Fig. 4 is a horizontal section on the line 4 4, Fig. 3.

A may represent the trunk of a tree. B is a band, which may be made of a cheap woven fabric, somewhat larger than the tree it is to encircle, so as to allow for growth. Within pockets C C', at the upper and lower edges of the band B, are springs D D, of brass or other metal, one of which is shown in Fig. 2, by cutting away a portion of the fabric in which it is inclosed. These springs are found, in practice, to exert a very uniform pressure around the tree, so as to keep all parts of the edges of the band in close contact, and prevent the possibility of the passage of insects. They also constitute a very cheap and durable device for the purpose.

The meeting ends of the band around the tree are secured together by button-holes, as shown at E, or by any other suitable fastening. They may be stitched together, if preferred.

E' E' represent additional buttons and button-holes at the upper and lower extremities, for connecting the ends of the pockets containing the springs.

At the upper part of the band is applied a receptacle for oil, F, said receptacle being formed by constructing its inner and outer walls G G' of cloth prepared with silicate of soda, or linseed-oil and whiting, or any other suitable material, to render it impervious to oil. The bottom H of the receptacle is formed of woven fabric or open-work, as illustrated in Fig. 4, to allow the percolation or gradual escape of liquid.

I I I represent ribs or bands, formed of wicking or other capillary material, inclosed within suitable pockets in the fabric.

J represents an inner lining, of prepared cloth or other impervious material, which prevents coal-oil or other liquid employed to prevent the passage of insects from coming in contact with the bark of the tree.

K is an inlet-tube, through which oil may be poured into the reservoir F.

Operation: The appliance, made as above described, being buttoned or fastened around the tree, its outer surface is painted with printer's ink, residuum of rosin, or any viscid material that will prevent the passage of insects. The trough or receptacle F is then supplied with petroleum, or any other more liquid material than is employed to coat the band. The said liquid, percolating through the bottom H of the trough, gradually flows over the successive ribs I I I, and keeps the coating of the band sufficiently soft to be effective for a long period.

The apparatus is economical in construction and use, and is found by experience to operate with excellent effect. It is readily changed from one tree to another, or replaced by a larger protector when demanded by the growth of the tree.

Having thus described my invention, the following is what I claim as new and desire to secure by Letters Patent:

1. The metallic spiral springs combined with a tree-protecting band, in manner substantially as and for the purpose set forth.

2. In a tree-protector, the combination of the impervious sides G G' and the discharge

ing-bottom H, constructed to operate substantially as and for the purpose set forth.

3. In a tree-protector; the corrugated surface of capillary material, adapted to operate substantially as herein set forth.

4. The combination of the inner web J, of impervious material, and the outer web B, of

capillary material, arranged to operate as a tree-protector, substantially as and for the purposes set forth.

GEO. W. GRADER.

Witnesses:

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